CLAIMS

The invention is claimed as follows:

1. A light-emitting device comprising: a first electrode, a layer including a light-emitting layer and a second electrode laminated in sequence on a substrate with a base layer in between, and extracting light generated in the light-emitting layer from the second electrode,

wherein the first electrode includes an adhesive layer disposed in contact with the base layer; a reflective layer disposed on the adhesive layer to reflect the light generated in the light-emitting layer; and a barrier layer disposed on the reflective layer to protect the reflective layer.

2. The light-emitting device according to claim 1, wherein

the adhesive layer is made of at least one of a metal, an electrically conductive oxide and a metal compound that include a metal element selected from the group consisting of chromium (Cr), indium (In), tin (Sn), zinc (Zn), cadmium (Cd), titanium (Ti), aluminum (Al), magnesium (Mg) molybdenum (Mo) and combinations thereof.

3. The light-emitting device according to claim 1, wherein

the reflective layer includes at least one of silver (Ag) and an alloy including silver.

4. The light-emitting device according to claim 1, wherein

the reflective layer is made of an alloy including silver (Ag) and a constituent selected from the group consisting of neodymium (Nd), samarium (Sm), yttrium (Y), cerium (Ce), europium (Eu), gadolinium (Gd), terbium (Tb), dysprosium (Dy), erbium (Er), ytterbium (Yb), scandium (Sc), ruthenium (Ru), copper (Cu), gold (Au) and combinations thereof.

5. The light-emitting device according to claim 1, wherein

the reflective layer includes an alloy including silver (Ag), samarium (Sm) and copper (Cu).

6. The light-emitting device according to claim 1, wherein

the reflective layer includes an alloy including silver (Ag) as a main component, about 0.03 % by mass to about 0.5 % by mass inclusive of samarium (Sm) and about 0.2 % by mass to about 1.0 % by mass inclusive of copper (Cu).

7. The light-emitting device according to claim 1, wherein

the barrier layer includes a light-transparent film including at least one of a metal, an oxide and a metal compound including at least one kind selected from the group of metal elements consisting of indium (In), tin (Sn), zinc (Zn), cadmium (Cd), titanium (Ti), chromium (Cr), gallium (Ga) and aluminum (Al).

8. The light-emitting device according to claim 1, wherein

the barrier layer includes at least one kind selected from the group consisting of a compound including indium (In), tin (Sn) and oxygen (O), a compound including indium (In), zinc (Zn) and oxygen (O), indium tin oxide (ITO), indium zinc oxide (IZO), indium oxide (In_2O_3), tin oxide (SnO_2), zinc oxide (ZnO), cadmium oxide (CdO), titanium oxide (TiO_2), chromium oxide (CrO_2), gallium nitride (GaN), gallium oxide (Ga_2O_3) aluminum oxide (Al_2O_3) and combinations thereof.

9. The light-emitting device according to claim 1, wherein

the thickness of the barrier layer ranges from about 1 nm to about 50 nm inclusive.

10. The light-emitting device according to claim 1, wherein

the base layer includes a planarizing layer.

11. The light-emitting device according to claim 1, wherein

a layer including the light-emitting layer includes an organic layer.

12. The light-emitting device according to claim 1, wherein

the adhesive layer also serves as an auxiliary reflective film reflecting light generated in the light-emitting layer and having passed through the reflective layer.

13. The light-emitting device according to claim 12, wherein

the auxiliary reflective film includes at least one of a metal, an electrically conductive oxide, and a metal compound including at least one kind selected from the group of metal elements consisting of chromium (Cr), indium (In), tin (Sn), zinc (Zn), cadmium (Cd), titanium (Ti), aluminum (Al), magnesium (Mg) and molybdenum (Mo).

14. The light-emitting device according to claim 12, wherein

the auxiliary reflective film has a reflectance of about 50% or greater.

15. A method of manufacturing a light-emitting device, the light-emitting device comprising a first electrode, a layer including a light-emitting layer and a second electrode laminated in order on a substrate with a base layer in between, the method comprising the steps of:

forming an adhesive layer on the base layer;

forming a reflective layer reflecting light generated in the light-emitting layer on the adhesive layer;

forming a barrier layer protecting the reflective layer on the reflective layer;

forming the first electrode through patterning the barrier layer, the reflective layer and the adhesive layer in order from the barrier layer;

forming the layer including the light-emitting layer on the first electrode; and

forming the second electrode on the layer including the light-emitting layer.

16. The method of manufacturing a light-emitting device according to claim 15, wherein

in the step of forming the first electrode, after the barrier layer and the reflective layer are patterned, the adhesive layer is patterned.

17. The method of manufacturing a light-emitting device according to claim 15, wherein

in the step of forming the first electrode, after the barrier layer is patterned, the reflective layer and the adhesive layer are patterned.

18. The method of manufacturing a light-emitting device according to claim 15, wherein

in the step of forming the first electrode, the barrier layer, the reflective layer and the adhesive layer are patterned one by one from the barrier layer.

19. The method of manufacturing a light-emitting device according to claim 15, wherein

the adhesive layer includes at least one of a metal, an electrically conductive oxide and a metal compound including a metal element selected from the group consisting of chromium (Cr), indium (In), tin (Sn), zinc (Zn), cadmium (Cd), titanium (Ti), aluminum (Al), magnesium (Mg), molybdenum (Mo) and combinations thereof.

20. The method of manufacturing a light-emitting device according to claim 15, wherein

the reflective layer includes silver (Ag) or an alloy including silver.

21. The method of manufacturing a light-emitting device according to claim 15, wherein

the reflective layer is made of an alloy including silver (Ag) and at least one-kind selected from the group consisting of neodymium (Nd), samarium (Sm), yttrium (Y), cerium (Ce), europium (Eu), gadolinium (Gd), terbium (Tb), dysprosium (Dy), erbium (Er), ytterbium (Yb), scandium (Sc), ruthenium (Ru), copper (Cu) and gold (Au).

22. The method of manufacturing a light-emitting device according to claim 15, wherein

the reflective layer includes an alloy including silver (Ag), samarium (Sm) and copper (Cu).

23. The method of manufacturing a light-emitting device according to claim 15, wherein

the reflective layer includes an alloy including silver (Ag) as a main component, about 0.03 % by mass to about 0.5 % by mass inclusive of samarium (Sm) and about 0.2 % by mass to about 1.0 % by mass inclusive of copper (Cu).

24. The method of manufacturing a light-emitting device according to claim 15, wherein

the barrier layer includes a light-transparent film made of at least one of a metal, an oxide and a metal compound including at least one kind selected from the group of metal elements consisting of indium (In), tin (Sn), zinc (Zn), cadmium (Cd), titanium (Ti), chromium (Cr), gallium (Ga) and aluminum (Al).

25. The method of manufacturing a light-emitting device according to claim 15, wherein

the barrier layer includes a material selected from the group consisting of a compound including indium (In), tin (Sn) and oxygen (O), a compound including indium (In), zinc (Zn) and oxygen (O), indium tin oxide (ITO), indium zinc oxide (IZO), indium oxide (In_2O_3), tin oxide (SnO_2), zinc oxide (ZnO), cadmium oxide (CdO), titanium oxide (TiO_2), chromium oxide (CrO_2), gallium nitride (GaN), gallium oxide (Ga_2O_3) and aluminum oxide (Al_2O_3).

26. The method of manufacturing a light-emitting device according to claim 15, wherein

the thickness of the barrier layer ranges from about 1 nm to about 50 nm.

27. The method of manufacturing a light-emitting device according to claim 15, wherein

as the layer including the light-emitting layer, an organic layer is formed.

28. A display unit, comprising:

a light-emitting device comprising a first electrode, a layer including a light-emitting layer and a second electrode laminated in order on a substrate with a base layer in between, and extracting light generated in the light-emitting layer from the second electrode,

wherein the first electrode includes an adhesive layer disposed in contact with the base layer; a reflective layer disposed on the adhesive layer to reflect the light generated in the light-emitting layer; and a barrier layer disposed on the reflective layer to protect the reflective layer.

29. The display unit according to claim 28, wherein

the layer including the light-emitting layer includes an organic layer.